2010 Urban Forest Grant Application
Austin Nature Preserves System
City of Austin, Parks and Recreation Department

PROJECT TITLE	Management, control and eradication of non-native and native invasive species in the Austin Nature Preserves System.
Does the project meet the required basic criteria:	
Within the Austin city limits.....	**YES**
On public property or Civic areas as defined in 25-2-6(A) within the Land Development Code, or within 15 feet of these areas.....	**YES**
For public benefit.....	**YES**
Adhere to the Land Development Code criteria.....	**YES**
Will the project occur without UFGP award.....	**YES**
INTRODUCTION AND OBJECTIVES	ATTACHMENT A
APPROACH AND METHODS	ATTACHMENT B
BUDGET	ATTACHMENT C
PERSONNEL QUALIFICATIONS	ATTACHMENT D

Attachment A - Introduction and Objectives

The purpose of the Austin Nature Preserves System is to provide comprehensive land management and environmental education practices that serve to protect and foster stewardship and sustainability of Austin natural areas and their ecosystems. With twenty-two natural areas that range from Blackland prairie to the East and Edwards plateau (Balcones Canyonland Preserves) to the West, as well as numerous geographically located nature preserves located throughout Austin.

The Austin Nature Preserves System (Preserves) is responsible for the management of thirteen natural areas designated as "nature preserves" geographically located throughout Austin and Travis County. The Preserves System has portions, including the Balcones Canyonland Preserve, that are dually managed by the Austin Parks and Recreation Department (PARD) and Austin Water Utility. With the exception of two rural preserves, the majority of lands are in highly urban and suburban communities; adjacent to neighborhoods and near schools. This creates greater public demand for these natural areas and increases opportunities for residents. Several preserves are designated as endangered species habitats; including the Karst invertebrate species of concern and nine endangered species habitats within the Balcones Canyonlands Preserve.

The Austin Nature Preserve System has documented the highest levels of colonization of non-native and native woody invasion within our habitats due to the proximity of a highly populated urban core. It is not always feasible to utilize proven land management strategies such as grazing and or prescribed burns due to proximity of residential dwellings. Mechanical and herbicidal means are our only alternative since these species cannot be biological controlled at this time. With the City's Climate Protection Program it is incumbent that we maintain healthy biologically diverse habitats that enable effective capture of carbon and functionality of ecosystem services.

While efforts to remove and shred invasive plants and replant with native plants in Austin Preserves have resulted in a reduction in the seed bank of Ligustrum trees; a management issue has developed in that Austin PARD cannot respond in a timely manner to dispose of brush that has accumulated as a result of removal of invasive species. In many cases non-native, invasive species are sequestered within natural areas that are inaccessible to larger chippers and standard City-issued crew cab trucks. To dispose of or reuse the matter, either it must be manually hauled to an accessible area or a chipper must be rented.

To help preserve Austin's unique biological diversity we are requesting one six-inch, 35 horsepower chipper with hitch to facilitate the re-use of green waste. This chipper will be accessible via our hiking trails, therein by minimizing impacts to natural vegetation and allowing us to utilize green waste matter to help protect open canopy areas and serve as a weed barrier during the replanting/restoration phase. The immediate advantage will be the reduction of travel time and use of fossil fuels to transport brush from preserves to our "Naturewise™" Brush management facility.

Attachment B - Approach and Methods

Our management technique consists of pairing volunteers to cut smaller Ligustrum and clear the area of brush from heavily infested areas. The brush is dragged to a central location for chipping or to be taken out by trailer. We contract (when funds are available) groups like American YouthWorks Environmental Corps (E-Corps) for tasks that require powered equipment (chain saws) and licensed herbicide application. Our management strategy is to define specific target areas of high priority in the Preserve and clear them completely of invasive species. Some areas are more difficult to remove than others due to accessibility, topography and being near riparian corridors.

Austin Preserves benefit from thousands of hours of volunteer time annually. Partners such as: the Austin Parks Foundation, Keep Austin Beautiful, Eagle Scout candidates, Eco Texas, E-Corps, Central Texas Trail Tamers as well as countless others assist Austin PARD with the removal of invasive species in our Preserves. Generally, the Preserves are open to the public with only three controlled-access areas, available by reservation for educational groups or for restoration projects.

Our method:

1. Define the priority area in the preserve.
2. Work with volunteers to remove smaller sized - 1 inch to 2 inch diameter invasives using hand saws, weed wrenches and/or hand pulling saplings.
3. Medium and large sized (2.5 inches and larger) are cut manually 1 to 2 feet from the ground. E-Corps is brought in; they cut the stumps and treat them with an approved herbicide. They are also tasked with cutting any invasives too large for untrained volunteers to safely cut down.
4. Volunteers drag brush to an area of the Preserve where it is impossible to bring in a chipper.
5. Steps 2-3 provide a clear work area with only the mid- to large stumps exposed. A chipper is rented at this point. The brush is managed by chipping into piles and later spreading along the trails of the Preserve.
6. The larger tree trunks are collected and removed by one staff person with a truck or trailer. Community Court and Travis County Community Service help when available.
7. Native grass seeds are scattered in the invasive-free areas to accelerate the restoration efforts.
8. Replanting of ground cover is also conducted once the area has been cleared of brush piles and stumps. Trees and shrubs are also planted at this time but only as funds are available.
9. Work continues based on available resources and repeating the process. Note: E-Corps is hired strategically for only 1-2 days at a time and only following clearing efforts of our volunteer teams.

Promptly cutting and treating stumps after volunteers cut Ligustrum is helpful in maintaining a healthy appearance to the preserve. Promptly removing brush piles by chipping is also necessary to minimize the large unsightly piles of and other invasive species that can accumulate. I t must be noted that restoration work occurs on a consistent basis only if resources are available. We have been fortunate to have access to Travis County Community Service and Austin Municipal Community Courts work details. There seems to be ample volunteers to manage invasive species but not enough resources to dispose of the bio-matter that is accumulated. This is why it is so important that we create a closed-loop system that affords us the tools necessary to manage our green waste stream in-house. This will substantially reduce fuel cost, cycle time and is a sustainable way to manage invasive species.

Attachment C

Budget

Item	Description	Request	PARD Match	Total Budget
Chipper	6" disc-style, 35 horsepower, gas engine chipper with towing hitch, auto-feed system, digital tachometer, engine top cover and lockable filler cap covers (includes shipping and handling costs)	$15,000		$15,000
Volunteer hours	At least 5 four-hour events with 100 volunteers, totaling 200 hours 200 hrs x $10/hr		$2,000	$2,000
E-Corps	Hours using trained volunteers Crew of 10 10 x 2 days (8 hrs) x $15		$2,400	$2,400
Management	48hrs @ $22/hr		$1,056	$1,056
	TOTAL	$15,000	$5,456	$20,456

Attachment D

Personnel

The primary Austin PARD personnel who will be supervising and reporting on this project will be L. Rene Barrera and his direct supervisor Margaret Russell. Please see the following qualifications for each employee.

Rene Barrera, Environmental Conservation Information Specialist and Preserves Manager, has been directing efforts for fourteen years to address the aggressive threat of non-native and native invasive species and to help restore biological diversity back to Austin's ecology. He provides comprehensive land management and environmental education practices that serve to protect and foster stewardship and sustainability of Austin's original natural areas program. Duties include: ecological restoration, construction of trails, erosion control, invasive species research and management, educational programs, volunteer coordination and recruitment, public outreach, biodiversity research, wildlife and habitat monitoring, management of grants, development of mitigation plans, native plant rescues, cave management and public safety and addressing wildlands-urban interface issues.

Margaret Russell received a BS from Texas A&M in Wildlife Management and completed class work for an MS in Aquatic Science at Texas State University. Margaret started and managed the Science Materials Center for the Regional Service Center XIII that served 60 school districts with living organisms. Her work with informal science programming was recognized with a seat on the Texas Informal Science Educators Association board, which encourages collaboration among informal sites with schools. Currently a program manager in Parks and Recreation, Margaret guides many of the department's natural resource areas.